

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P832088

Luminaire Tested: S123RDIP-S340D1195U950-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832088
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S340D1195U950-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

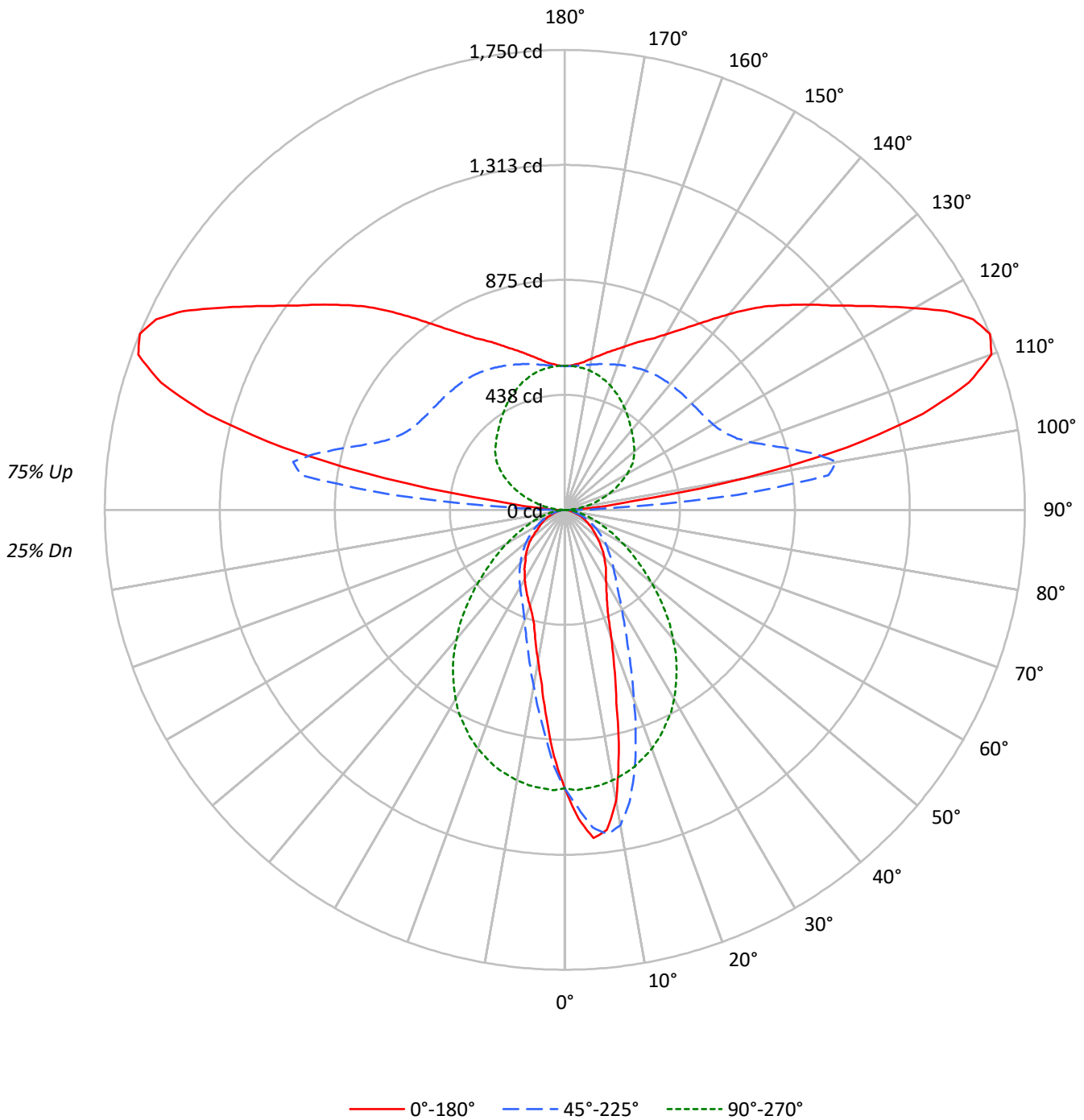
Lumens per Lamp: N/A
Luminaire Lumens: 5526.9 lumens
Efficiency: N/A
Efficacy: 127.3 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 43.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	25				
1	93	89	85	82	83	79	76	74	62	60	58	45	44	43	30	30	29	22				
2	85	78	72	67	75	70	65	61	54	51	48	40	38	37	27	26	25	19				
3	78	69	62	57	69	62	56	51	48	44	41	36	33	31	24	23	22	17				
4	71	61	54	48	63	55	49	44	43	39	35	32	29	27	22	21	19	15				
5	65	55	47	41	58	49	43	38	39	34	31	29	26	24	20	18	17	13				
6	60	49	41	36	54	44	38	33	35	30	27	27	23	21	19	17	15	12				
7	56	44	37	32	50	40	34	29	32	27	24	24	21	19	17	15	14	11				
8	52	40	33	28	46	36	30	26	29	25	21	22	19	17	16	14	13	10				
9	48	37	30	25	43	33	27	23	27	22	19	21	17	15	15	13	11	9				
10	45	34	27	22	40	31	25	21	25	20	17	19	16	14	14	12	11	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	11408	11408	11408	11408	11408
5°	13545	13113	11479	9280	8616
10°	12272	13319	11423	7436	6379
15°	8450	11420	11302	6077	5046
20°	5879	8793	11074	5125	4435
25°	4480	6701	10745	4555	4087
30°	3899	5358	10332	4228	3786
35°	3581	4519	9746	3954	3511
40°	3267	4036	8982	3684	3260
45°	2950	3691	8156	3430	3009
50°	2678	3406	7182	3180	2699
55°	2423	3126	6247	2935	2316
60°	2170	2844	5425	2665	2189
65°	2004	2524	4671	2397	2071
70°	1627	2181	4076	2168	1681
75°	1426	1734	3452	1797	1481
80°	1296	1469	2827	1506	1401
85°	1186	1284	2149	1371	1284

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 8605 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	1.7
10°-20°	223.5	4.0
20°-30°	256.5	4.6
30°-40°	252.8	4.6
40°-50°	222.9	4.0
50°-60°	171.5	3.1
60°-70°	112.8	2.0
70°-80°	54.8	1.0
80°-90°	16.8	0.3
90°-100°	297.1	5.4
100°-110°	869.9	15.7
110°-120°	849.5	15.4
120°-130°	676.5	12.2
130°-140°	533.8	9.7
140°-150°	398.2	7.2
150°-160°	277.6	5.0
160°-170°	163.1	3.0
170°-180°	53.0	1.0
0°-30°	576.6	10.4
0°-40°	829.4	15.0
0°-60°	1223.8	22.1
0°-90°	1408.2	25.5
90°-120°	2016.5	36.5
90°-150°	3625.0	65.6
90°-180°	4119.0	74.5
0°-180°	5526.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1060	1060	1060	1060	1060	
5°	1254	1214	1062	859	797	115
15°	758	1025	1014	545	453	214
25°	377	564	905	384	344	178
35°	272	344	742	301	267	170
45°	194	242	536	225	198	150
55°	129	167	333	156	123	116
65°	79	99	183	94	81	77
75°	34	42	83	43	36	37
85°	10	10	17	11	10	10
90°	32	28	2	28	32	17
95°	129	657	38	657	129	209
105°	1410	891	129	891	1410	1407
115°	1715	682	227	682	1715	1672
125°	1352	636	316	636	1352	1224
135°	1096	627	370	627	1096	850
145°	857	620	422	620	857	544
155°	710	600	480	600	710	331
165°	620	574	524	574	620	177
175°	558	551	546	551	558	54
180°	548	548	548	548	548	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8
2.5°	1174.5	1170.8	1167.2	1166.1	1165.0	1161.5	1158.0	1150.2	1142.4	1134.3	1126.3
5°	1253.6	1254.1	1254.5	1253.4	1252.3	1247.8	1243.2	1233.6	1224.1	1213.6	1203.2
7.5°	1229.3	1236.2	1243.2	1244.5	1245.8	1249.3	1252.8	1250.6	1248.4	1244.5	1240.6
10°	1122.8	1122.4	1122.0	1129.8	1137.6	1160.9	1184.1	1196.1	1208.0	1218.6	1229.3
12.5°	949.0	949.7	950.3	976.0	1001.6	1023.5	1045.5	1075.9	1106.3	1139.1	1171.9
15°	758.3	768.9	779.6	802.4	825.2	858.2	891.2	932.1	972.9	1024.8	1076.8
17.5°	622.7	627.2	631.8	653.8	675.7	707.0	738.3	784.5	830.8	897.7	964.7
20°	513.2	517.3	521.4	537.3	553.2	583.1	613.1	657.2	701.3	767.6	833.9
22.5°	428.4	436.5	444.5	455.2	465.8	487.5	509.3	554.2	599.2	659.6	720.0
25°	377.2	380.9	384.6	393.7	402.8	423.7	444.5	474.3	504.1	564.2	624.4
27.5°	342.4	343.5	344.6	351.3	358.1	371.5	385.0	412.6	440.2	489.7	539.3
30°	313.7	315.7	317.6	322.9	328.1	337.8	347.6	367.2	386.7	431.1	475.4
32.5°	291.6	292.7	293.7	298.1	302.4	309.6	316.8	332.2	347.6	381.5	415.4
35°	272.5	272.7	272.9	276.1	279.4	286.4	293.3	306.1	318.9	343.9	368.9
37.5°	250.7	252.2	253.8	256.2	258.5	264.6	270.7	281.1	291.6	312.2	332.9
40°	232.5	233.8	235.1	237.9	240.7	245.5	250.3	259.9	269.4	287.2	305.0
42.5°	214.2	215.1	216.0	218.8	221.6	227.5	233.3	240.9	248.6	263.3	278.1
45°	193.8	196.0	198.1	201.2	204.2	209.2	214.2	222.0	229.9	242.5	255.1
47.5°	176.9	177.9	179.0	181.6	184.2	190.3	196.4	203.4	210.3	222.0	233.8
50°	159.9	160.3	160.8	163.2	165.6	171.0	176.4	184.5	192.5	203.4	214.2
52.5°	143.8	144.9	146.0	148.4	150.8	154.5	158.2	166.4	174.7	185.3	196.0
55°	129.1	129.7	130.4	132.1	133.8	138.2	142.5	149.7	156.9	166.6	176.4
57.5°	115.2	116.0	116.9	118.2	119.5	123.4	127.3	133.6	139.9	149.7	159.5
60°	100.8	101.9	103.0	104.5	106.0	109.1	112.1	117.8	123.4	132.1	140.8
62.5°	90.4	90.6	90.8	92.1	93.4	95.6	97.8	102.3	106.9	115.6	124.3
65°	78.7	79.3	80.0	80.6	81.3	83.0	84.7	88.6	92.6	99.1	105.6
67.5°	66.5	67.1	67.8	68.9	70.0	71.5	73.0	75.6	78.2	84.3	90.4
70°	51.7	51.7	51.7	53.4	55.2	57.8	60.4	62.4	64.3	69.3	74.3
72.5°	42.1	42.4	42.6	42.8	43.0	44.5	46.1	49.3	52.6	55.6	58.7
75°	34.3	34.5	34.8	35.0	35.2	35.6	36.1	37.2	38.2	41.7	45.2
77.5°	27.4	27.6	27.8	28.0	28.2	28.7	29.1	29.5	30.0	31.3	32.6
80°	20.9	21.1	21.3	21.5	21.7	21.9	22.2	22.6	23.0	23.7	24.3
82.5°	15.2	15.2	15.2	15.2	15.2	15.6	16.1	16.1	16.1	16.5	16.9
85°	9.6	9.6	9.6	9.8	10.0	10.0	10.0	10.2	10.4	10.4	10.4
87.5°	4.3	4.1	3.9	4.1	4.3	4.3	4.3	4.6	4.8	4.8	4.8
90°	32.1	33.3	32.1	31.0	32.1	29.9	28.8	27.7	26.6	27.7	24.4
92.5°	58.7	61.0	59.9	64.3	66.5	74.3	85.3	109.7	154.1	206.2	228.3
95°	128.6	133.0	140.8	150.7	171.8	211.7	270.5	399.0	533.1	657.3	585.2
97.5°	263.8	276.0	302.6	344.7	419.0	545.3	691.6	916.6	1045.2	1010.9	754.8
100°	695.0	693.9	737.1	818.0	929.9	1087.3	1217.0	1306.8	1268.0	1049.7	709.4
102.5°	1100.6	1132.8	1167.1	1227.0	1307.9	1393.3	1455.3	1436.5	1279.1	977.6	642.9
105°	1409.9	1415.4	1450.9	1493.0	1544.0	1572.8	1551.8	1440.9	1209.3	891.2	590.8
107.5°	1611.6	1623.8	1638.2	1658.2	1664.8	1634.9	1548.4	1374.4	1109.5	814.7	553.1
110°	1726.9	1729.1	1731.3	1722.5	1691.4	1613.8	1474.2	1270.2	1016.4	751.5	533.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1750.2	1749.1	1738.0	1705.8	1642.7	1537.4	1376.6	1167.1	935.5	709.4	522.1
115°	1714.7	1709.2	1687.0	1638.2	1555.1	1434.3	1271.3	1078.5	873.4	681.7	520.9
117.5°	1637.1	1629.4	1596.1	1541.8	1455.3	1330.1	1180.4	1009.8	832.4	662.8	522.1
120°	1535.1	1528.5	1501.9	1439.8	1352.3	1240.3	1107.3	957.7	801.4	650.6	526.5
122.5°	1439.8	1430.9	1401.0	1346.7	1271.3	1169.4	1048.5	916.6	775.9	642.9	534.3
125°	1352.3	1344.5	1316.8	1268.0	1197.1	1108.4	1002.0	881.2	754.8	636.2	542.0
127.5°	1276.9	1270.2	1244.7	1202.6	1138.3	1056.3	958.8	849.0	734.9	632.9	550.9
130°	1214.8	1205.9	1182.7	1142.8	1084.0	1008.6	918.9	819.1	719.4	629.6	559.7
132.5°	1153.8	1148.3	1128.4	1088.5	1034.1	963.2	881.2	791.4	704.9	628.5	566.4
135°	1096.2	1088.5	1068.5	1035.2	980.9	917.8	845.7	767.0	692.8	627.4	573.0
137.5°	1035.2	1028.6	1012.0	977.6	931.1	874.5	810.2	743.7	681.7	625.1	577.5
140°	971.0	972.1	954.3	923.3	881.2	833.5	780.3	723.8	671.7	624.0	581.9
142.5°	911.1	912.2	896.7	870.1	835.7	795.8	751.5	704.9	662.8	621.8	585.2
145°	856.8	854.6	845.7	822.4	794.7	762.6	727.1	690.5	655.1	619.6	586.3
147.5°	810.2	809.1	800.3	783.6	761.5	738.2	708.3	678.3	647.3	616.3	586.3
150°	770.3	770.3	763.7	751.5	734.9	713.8	690.5	665.0	639.5	611.8	586.3
152.5°	737.1	737.1	733.8	722.7	710.5	693.9	673.9	652.8	630.7	606.3	583.0
155°	710.5	709.4	707.2	698.3	688.3	675.0	658.4	640.7	621.8	599.6	580.8
157.5°	685.0	685.0	682.8	676.1	667.3	656.2	642.9	627.4	611.8	594.1	577.5
160°	660.6	661.7	661.7	655.1	647.3	639.5	628.5	616.3	601.9	587.5	575.3
162.5°	638.4	639.5	639.5	634.0	629.6	622.9	612.9	603.0	591.9	580.8	570.8
165°	619.6	619.6	620.7	616.3	611.8	606.3	598.5	591.9	583.0	574.2	566.4
167.5°	600.8	600.8	601.9	598.5	596.3	591.9	587.5	581.9	574.2	567.5	562.0
170°	584.1	584.1	585.2	583.0	581.9	579.7	575.3	571.9	566.4	560.9	557.5
172.5°	568.6	569.7	571.9	569.7	569.7	568.6	565.3	563.1	558.6	555.3	554.2
175°	557.5	558.6	559.7	558.6	558.6	558.6	556.4	555.3	553.1	550.9	550.9
177.5°	549.8	549.8	552.0	550.9	552.0	552.0	550.9	549.8	548.7	547.6	548.7
180°	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8
2.5°	1125.2	1124.1	1113.7	1103.3	1093.1	1082.9	1075.3	1067.6	1054.8	1042.0	1034.0
5°	1195.0	1186.7	1170.2	1153.7	1128.9	1104.1	1083.3	1062.4	1035.9	1009.4	987.3
7.5°	1233.9	1227.1	1207.1	1187.1	1154.3	1121.5	1088.9	1056.3	1017.2	978.1	944.7
10°	1234.9	1240.6	1224.1	1207.6	1170.6	1133.7	1089.4	1045.1	992.5	939.9	896.7
12.5°	1196.3	1220.6	1217.1	1213.6	1176.1	1138.5	1084.6	1030.7	966.2	901.7	847.6
15°	1123.9	1171.1	1185.0	1198.9	1167.8	1136.7	1075.5	1014.2	938.4	862.5	800.4
17.5°	1030.7	1096.8	1133.5	1170.2	1147.6	1125.0	1057.9	990.7	905.3	820.0	752.4
20°	920.3	1006.8	1064.4	1122.0	1113.7	1105.5	1036.1	966.8	874.7	782.6	709.4
22.5°	811.3	902.5	982.0	1061.6	1070.0	1078.5	1008.6	938.6	837.8	737.0	662.4
25°	717.2	810.0	904.7	999.4	1018.5	1037.7	971.2	904.7	800.2	695.7	621.6
27.5°	627.5	715.7	820.0	924.3	959.0	993.8	932.9	872.1	763.3	654.4	580.5
30°	554.2	633.1	739.6	846.0	894.5	942.9	887.1	831.3	723.3	615.3	542.9
32.5°	486.0	556.6	663.5	770.4	826.7	883.0	834.7	786.5	682.7	578.8	507.3
35°	432.1	495.4	595.1	694.8	757.8	820.8	781.3	741.7	640.3	538.8	471.3
37.5°	385.9	438.9	532.5	626.2	693.1	760.0	727.0	693.9	598.6	503.2	439.3
40°	347.6	390.2	477.3	564.5	630.1	695.7	667.4	639.2	553.8	468.4	408.7
42.5°	314.8	351.5	429.8	508.0	568.2	628.3	609.6	591.0	513.6	436.3	380.9
45°	285.9	316.8	385.6	454.5	509.9	565.3	550.6	535.8	469.1	402.4	351.5
47.5°	260.3	286.8	348.3	409.8	459.5	509.3	495.6	481.9	426.7	371.5	325.2
50°	236.8	259.4	310.7	362.0	406.7	451.5	440.2	428.9	383.3	337.6	297.7
52.5°	214.7	233.3	279.4	325.5	361.5	397.6	388.9	380.2	345.0	309.8	273.5
55°	193.6	210.7	249.6	288.5	319.4	350.2	341.5	332.9	305.5	278.1	246.2
57.5°	174.5	189.5	221.0	252.5	277.0	301.6	297.4	293.3	270.5	247.7	221.4
60°	154.3	167.7	194.9	222.0	241.8	261.6	256.8	252.0	235.7	219.4	196.8
62.5°	136.2	148.2	169.9	191.6	207.7	223.8	220.3	216.8	204.4	192.1	173.4
65°	117.3	129.1	146.7	164.3	176.9	189.5	186.4	183.4	174.0	164.7	149.7
67.5°	100.2	109.9	125.1	140.4	148.8	157.3	155.6	153.8	146.7	139.5	127.8
70°	82.8	91.3	103.9	116.5	122.3	128.2	128.8	129.5	123.0	116.5	107.8
72.5°	65.4	72.1	83.9	95.6	100.2	104.7	104.5	104.3	100.4	96.5	88.6
75°	50.2	55.2	64.3	73.4	77.3	81.3	82.1	83.0	79.3	75.6	71.3
77.5°	36.1	39.5	46.5	53.4	57.8	62.1	62.6	63.0	61.3	59.5	55.4
80°	25.4	26.5	30.9	35.2	39.8	44.3	45.0	45.6	43.9	42.1	39.5
82.5°	17.6	18.3	19.8	21.3	25.0	28.7	29.5	30.4	29.5	28.7	25.9
85°	10.6	10.9	11.5	12.2	13.9	15.6	16.5	17.4	16.9	16.5	15.0
87.5°	4.8	4.8	5.0	5.2	5.6	6.1	7.2	8.3	7.6	7.0	6.3
90°	21.1	17.7	14.4	12.2	10.0	6.7	4.4	2.2	4.4	6.7	10.0
92.5°	170.7	111.9	76.5	56.5	45.4	35.5	24.4	16.6	24.4	35.5	45.4
95°	403.5	238.3	144.1	100.9	72.0	53.2	41.0	37.7	41.0	53.2	72.0
97.5°	448.9	257.1	164.0	116.4	87.6	70.9	61.0	59.9	61.0	70.9	87.6
100°	417.9	253.8	176.2	133.0	106.4	90.9	83.1	82.0	83.1	90.9	106.4
102.5°	391.3	258.3	190.6	151.9	128.6	114.2	107.5	105.3	107.5	114.2	128.6
105°	381.3	267.1	207.3	172.9	151.9	138.6	131.9	128.6	131.9	138.6	151.9
107.5°	379.1	281.5	228.3	196.2	176.2	162.9	156.3	153.0	156.3	162.9	176.2
110°	384.6	300.4	250.5	219.5	200.6	188.4	182.9	179.6	182.9	188.4	200.6

TEST NUMBER: P832088

CATALOG NUMBER: S123RDIP-S340D1195U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	395.7	319.2	273.8	243.8	225.0	212.8	207.3	203.9	207.3	212.8	225.0
115°	407.9	340.3	298.2	268.2	249.4	238.3	231.7	227.2	231.7	238.3	249.4
117.5°	423.4	362.4	320.3	292.6	271.6	261.6	256.0	250.5	256.0	261.6	271.6
120°	441.1	383.5	343.6	315.9	294.8	283.8	278.2	274.9	278.2	283.8	294.8
122.5°	457.8	405.7	366.9	337.0	317.0	304.8	299.3	295.9	299.3	304.8	317.0
125°	475.5	426.7	387.9	358.0	337.0	324.8	318.1	315.9	318.1	324.8	337.0
127.5°	489.9	445.6	407.9	378.0	354.7	342.5	334.7	331.4	334.7	342.5	354.7
130°	504.3	462.2	425.6	395.7	372.4	359.1	349.1	345.8	349.1	359.1	372.4
132.5°	517.6	476.6	441.1	412.3	389.0	372.4	361.3	356.9	361.3	372.4	389.0
135°	528.7	491.0	456.7	426.7	403.5	386.8	374.6	370.2	374.6	386.8	403.5
137.5°	537.6	501.0	467.7	440.0	416.8	399.0	386.8	382.4	386.8	399.0	416.8
140°	544.2	511.0	478.8	451.1	429.0	411.2	400.1	394.6	400.1	411.2	429.0
142.5°	550.9	518.7	487.7	462.2	440.0	424.5	412.3	407.9	412.3	424.5	440.0
145°	555.3	525.4	496.6	471.1	452.2	435.6	425.6	422.3	425.6	435.6	452.2
147.5°	558.6	530.9	504.3	482.2	463.3	448.9	438.9	436.7	438.9	448.9	463.3
150°	559.7	536.5	511.0	491.0	475.5	461.1	452.2	451.1	452.2	461.1	475.5
152.5°	562.0	539.8	518.7	499.9	486.6	474.4	465.5	465.5	465.5	474.4	486.6
155°	562.0	544.2	525.4	509.9	497.7	486.6	479.9	479.9	479.9	486.6	497.7
157.5°	563.1	546.4	530.9	518.7	507.6	497.7	492.1	491.0	492.1	497.7	507.6
160°	563.1	549.8	536.5	525.4	517.6	508.8	504.3	504.3	504.3	508.8	517.6
162.5°	562.0	550.9	539.8	530.9	524.3	517.6	514.3	514.3	514.3	517.6	524.3
165°	559.7	552.0	543.1	535.4	530.9	525.4	523.2	524.3	523.2	525.4	530.9
167.5°	558.6	552.0	545.3	539.8	536.5	532.0	530.9	532.0	530.9	532.0	536.5
170°	555.3	550.9	545.3	543.1	540.9	537.6	536.5	538.7	536.5	537.6	540.9
172.5°	554.2	550.9	546.4	545.3	544.2	542.0	542.0	543.1	542.0	542.0	544.2
175°	552.0	549.8	547.6	546.4	546.4	544.2	545.3	546.4	545.3	544.2	546.4
177.5°	550.9	548.7	547.6	547.6	547.6	546.4	547.6	548.7	547.6	546.4	547.6
180°	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6



TEST NUMBER: P832088

CATALOG NUMBER: S123RDIP-S340D1195U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8	1059.8
2.5°	1025.9	1013.5	1001.2	992.3	983.3	972.3	961.2	960.8	960.3	952.1	943.8
5°	965.1	943.6	922.1	901.0	879.9	858.9	837.8	833.0	828.2	821.0	813.9
7.5°	911.2	876.9	842.6	815.6	788.7	767.6	746.5	732.2	717.8	706.8	695.7
10°	853.4	810.8	768.3	735.7	703.1	680.3	657.4	640.9	624.4	616.6	608.8
12.5°	793.5	747.2	700.9	669.0	637.0	609.6	582.3	567.3	552.3	541.4	530.6
15°	738.3	688.5	638.8	604.9	571.0	545.3	519.7	504.7	489.7	478.9	468.0
17.5°	684.8	634.6	584.4	550.1	515.8	492.5	469.3	454.7	440.2	433.4	426.7
20°	636.2	585.5	534.9	502.5	470.2	447.4	424.5	416.7	408.9	402.6	396.3
22.5°	587.9	539.3	490.6	459.5	428.4	411.9	395.4	389.1	382.8	378.0	373.3
25°	547.5	499.1	450.6	423.5	396.3	383.5	370.7	366.5	362.4	357.6	352.8
27.5°	506.7	460.6	414.5	392.8	371.1	360.7	350.2	345.0	339.8	335.9	332.0
30°	470.6	428.0	385.4	367.4	349.4	340.2	331.1	325.5	319.8	316.1	312.4
32.5°	435.8	398.0	360.2	344.8	329.4	320.5	311.6	306.1	300.7	296.4	292.0
35°	403.7	370.9	338.1	323.9	309.8	300.9	292.0	286.6	281.1	276.8	272.5
37.5°	375.4	345.7	315.9	302.7	289.4	281.6	273.8	268.1	262.5	257.9	253.3
40°	348.9	322.6	296.4	283.5	270.7	262.2	253.8	248.8	243.8	239.6	235.5
42.5°	325.5	301.3	277.2	264.6	252.0	244.0	236.0	230.1	224.2	221.8	219.4
45°	300.7	279.4	258.1	245.9	233.8	225.3	216.8	211.8	206.8	204.7	202.5
47.5°	279.0	259.2	239.4	227.5	215.5	207.9	200.3	196.4	192.5	189.5	186.4
50°	257.7	238.6	219.4	207.9	196.4	189.9	183.4	178.6	173.8	171.6	169.5
52.5°	237.3	219.9	202.5	190.8	179.0	172.7	166.4	162.3	158.2	153.6	149.0
55°	214.2	199.0	183.8	173.4	162.9	156.4	149.9	145.1	140.4	135.6	130.8
57.5°	195.1	180.1	165.1	155.8	146.4	140.1	133.8	128.6	123.4	119.5	115.6
60°	174.2	161.2	148.2	139.1	129.9	123.8	117.8	112.8	107.8	105.8	103.9
62.5°	154.7	142.5	130.4	122.3	114.3	108.4	102.5	99.3	96.0	94.7	93.4
65°	134.7	124.3	113.8	106.5	99.1	94.1	89.1	87.6	86.0	85.0	83.9
67.5°	116.0	107.1	98.2	91.7	85.2	81.7	78.2	76.5	74.7	73.4	72.1
70°	99.1	91.3	83.4	77.8	72.1	68.9	65.6	64.1	62.6	60.2	57.8
72.5°	80.8	74.7	68.7	64.3	60.0	57.1	54.3	51.3	48.2	46.1	43.9
75°	66.9	60.8	54.8	50.6	46.5	43.2	40.0	38.9	37.8	37.2	36.5
77.5°	51.3	46.1	40.8	37.6	34.3	32.8	31.3	30.6	30.0	29.8	29.5
80°	36.9	32.6	28.2	26.5	24.8	24.3	23.9	23.5	23.0	22.8	22.6
82.5°	23.0	20.9	18.7	18.3	17.8	17.6	17.4	17.2	16.9	16.7	16.5
85°	13.5	12.6	11.7	11.5	11.3	11.1	10.9	10.9	10.9	10.9	10.9
87.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.2
90°	12.2	14.4	17.7	21.1	24.4	27.7	26.6	27.7	28.8	29.9	32.1
92.5°	56.5	76.5	111.9	170.7	228.3	206.2	154.1	109.7	85.3	74.3	66.5
95°	100.9	144.1	238.3	403.5	585.2	657.3	533.1	399.0	270.5	211.7	171.8
97.5°	116.4	164.0	257.1	448.9	754.8	1010.9	1045.2	916.6	691.6	545.3	419.0
100°	133.0	176.2	253.8	417.9	709.4	1049.7	1268.0	1306.8	1217.0	1087.3	929.9
102.5°	151.9	190.6	258.3	391.3	642.9	977.6	1279.1	1436.5	1455.3	1393.3	1307.9
105°	172.9	207.3	267.1	381.3	590.8	891.2	1209.3	1440.9	1551.8	1572.8	1544.0
107.5°	196.2	228.3	281.5	379.1	553.1	814.7	1109.5	1374.4	1548.4	1634.9	1664.8
110°	219.5	250.5	300.4	384.6	533.1	751.5	1016.4	1270.2	1474.2	1613.8	1691.4



TEST NUMBER: P832088

CATALOG NUMBER: S123RDIP-S340D1195U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	243.8	273.8	319.2	395.7	522.1	709.4	935.5	1167.1	1376.6	1537.4	1642.7
115°	268.2	298.2	340.3	407.9	520.9	681.7	873.4	1078.5	1271.3	1434.3	1555.1
117.5°	292.6	320.3	362.4	423.4	522.1	662.8	832.4	1009.8	1180.4	1330.1	1455.3
120°	315.9	343.6	383.5	441.1	526.5	650.6	801.4	957.7	1107.3	1240.3	1352.3
122.5°	337.0	366.9	405.7	457.8	534.3	642.9	775.9	916.6	1048.5	1169.4	1271.3
125°	358.0	387.9	426.7	475.5	542.0	636.2	754.8	881.2	1002.0	1108.4	1197.1
127.5°	378.0	407.9	445.6	489.9	550.9	632.9	734.9	849.0	958.8	1056.3	1138.3
130°	395.7	425.6	462.2	504.3	559.7	629.6	719.4	819.1	918.9	1008.6	1084.0
132.5°	412.3	441.1	476.6	517.6	566.4	628.5	704.9	791.4	881.2	963.2	1034.1
135°	426.7	456.7	491.0	528.7	573.0	627.4	692.8	767.0	845.7	917.8	980.9
137.5°	440.0	467.7	501.0	537.6	577.5	625.1	681.7	743.7	810.2	874.5	931.1
140°	451.1	478.8	511.0	544.2	581.9	624.0	671.7	723.8	780.3	833.5	881.2
142.5°	462.2	487.7	518.7	550.9	585.2	621.8	662.8	704.9	751.5	795.8	835.7
145°	471.1	496.6	525.4	555.3	586.3	619.6	655.1	690.5	727.1	762.6	794.7
147.5°	482.2	504.3	530.9	558.6	586.3	616.3	647.3	678.3	708.3	738.2	761.5
150°	491.0	511.0	536.5	559.7	586.3	611.8	639.5	665.0	690.5	713.8	734.9
152.5°	499.9	518.7	539.8	562.0	583.0	606.3	630.7	652.8	673.9	693.9	710.5
155°	509.9	525.4	544.2	562.0	580.8	599.6	621.8	640.7	658.4	675.0	688.3
157.5°	518.7	530.9	546.4	563.1	577.5	594.1	611.8	627.4	642.9	656.2	667.3
160°	525.4	536.5	549.8	563.1	575.3	587.5	601.9	616.3	628.5	639.5	647.3
162.5°	530.9	539.8	550.9	562.0	570.8	580.8	591.9	603.0	612.9	622.9	629.6
165°	535.4	543.1	552.0	559.7	566.4	574.2	583.0	591.9	598.5	606.3	611.8
167.5°	539.8	545.3	552.0	558.6	562.0	567.5	574.2	581.9	587.5	591.9	596.3
170°	543.1	545.3	550.9	555.3	557.5	560.9	566.4	571.9	575.3	579.7	581.9
172.5°	545.3	546.4	550.9	554.2	554.2	555.3	558.6	563.1	565.3	568.6	569.7
175°	546.4	547.6	549.8	552.0	550.9	550.9	553.1	555.3	556.4	558.6	558.6
177.5°	547.6	547.6	548.7	550.9	548.7	547.6	548.7	549.8	550.9	552.0	552.0
180°	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6



TEST NUMBER: P832088

CATALOG NUMBER: S123RDIP-S340D1195U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1059.8	1059.8	1059.8	1059.8
2.5°	941.6	939.5	938.6	937.7
5°	807.1	800.4	798.9	797.4
7.5°	692.9	690.0	680.7	671.4
10°	600.1	591.4	587.5	583.6
12.5°	522.5	514.5	513.2	511.9
15°	462.3	456.7	454.7	452.8
17.5°	422.8	418.9	416.5	414.1
20°	393.5	390.6	388.9	387.2
22.5°	371.1	368.9	367.6	366.3
25°	349.6	346.3	345.2	344.1
27.5°	329.2	326.3	325.2	324.2
30°	310.0	307.6	306.1	304.6
32.5°	289.2	286.4	285.5	284.6
35°	270.7	269.0	268.1	267.2
37.5°	251.2	249.0	247.7	246.4
40°	234.4	233.3	232.7	232.0
42.5°	217.5	215.5	215.3	215.1
45°	200.5	198.6	198.1	197.7
47.5°	184.7	182.9	182.7	182.5
50°	167.1	164.7	162.9	161.2
52.5°	146.9	144.7	143.2	141.7
55°	128.4	126.0	124.7	123.4
57.5°	114.5	113.4	112.8	112.1
60°	103.2	102.5	102.1	101.7
62.5°	92.8	92.1	92.1	92.1
65°	83.2	82.6	81.9	81.3
67.5°	70.8	69.5	69.3	69.1
70°	55.8	53.9	53.7	53.4
72.5°	43.7	43.5	43.0	42.6
75°	36.1	35.6	35.6	35.6
77.5°	29.1	28.7	28.7	28.7
80°	22.4	22.2	22.4	22.6
82.5°	16.5	16.5	16.3	16.1
85°	10.6	10.4	10.4	10.4
87.5°	5.2	5.2	5.2	5.2
90°	31.0	32.1	33.3	32.1
92.5°	64.3	59.9	61.0	58.7
95°	150.7	140.8	133.0	128.6
97.5°	344.7	302.6	276.0	263.8
100°	818.0	737.1	693.9	695.0
102.5°	1227.0	1167.1	1132.8	1100.6
105°	1493.0	1450.9	1415.4	1409.9
107.5°	1658.2	1638.2	1623.8	1611.6
110°	1722.5	1731.3	1729.1	1726.9



TEST NUMBER: P832088

CATALOG NUMBER: S123RDIP-S340D1195U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1705.8	1738.0	1749.1	1750.2
115°	1638.2	1687.0	1709.2	1714.7
117.5°	1541.8	1596.1	1629.4	1637.1
120°	1439.8	1501.9	1528.5	1535.1
122.5°	1346.7	1401.0	1430.9	1439.8
125°	1268.0	1316.8	1344.5	1352.3
127.5°	1202.6	1244.7	1270.2	1276.9
130°	1142.8	1182.7	1205.9	1214.8
132.5°	1088.5	1128.4	1148.3	1153.8
135°	1035.2	1068.5	1088.5	1096.2
137.5°	977.6	1012.0	1028.6	1035.2
140°	923.3	954.3	972.1	971.0
142.5°	870.1	896.7	912.2	911.1
145°	822.4	845.7	854.6	856.8
147.5°	783.6	800.3	809.1	810.2
150°	751.5	763.7	770.3	770.3
152.5°	722.7	733.8	737.1	737.1
155°	698.3	707.2	709.4	710.5
157.5°	676.1	682.8	685.0	685.0
160°	655.1	661.7	661.7	660.6
162.5°	634.0	639.5	639.5	638.4
165°	616.3	620.7	619.6	619.6
167.5°	598.5	601.9	600.8	600.8
170°	583.0	585.2	584.1	584.1
172.5°	569.7	571.9	569.7	568.6
175°	558.6	559.7	558.6	557.5
177.5°	550.9	552.0	549.8	549.8
180°	547.6	547.6	547.6	547.6

TEST NUMBER: P832088

CATALOG NUMBER: S123RDIP-S340D1195U950-4F0-1E-UDD-G4

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	6.29	6.94	7.44	8.08	9.66	10.95	11.61	12.10	12.74	14.33
	3H	7.50	8.08	8.66	9.22	10.82	12.44	13.03	13.60	14.17	15.77
	4H	7.87	8.43	9.04	9.57	11.17	12.92	13.48	14.09	14.62	16.23
	6H	8.14	8.65	9.32	9.80	11.42	13.23	13.74	14.40	14.88	16.50
	8H	8.23	8.71	9.40	9.87	11.48	13.30	13.78	14.48	14.94	16.55
	12H	8.27	8.73	9.45	9.89	11.52	13.33	13.79	14.51	14.94	16.57
4H	2H	6.99	7.55	8.17	8.69	10.30	10.93	11.48	12.10	12.63	14.23
	3H	8.35	8.81	9.52	9.98	11.59	12.57	13.03	13.75	14.20	15.82
	4H	8.80	9.22	9.97	10.38	12.01	13.17	13.60	14.35	14.75	16.39
	6H	9.15	9.52	10.34	10.70	12.32	13.60	13.96	14.78	15.14	16.77
	8H	9.28	9.62	10.46	10.79	12.43	13.73	14.07	14.91	15.24	16.88
	12H	9.35	9.65	10.54	10.83	12.48	13.78	14.09	14.98	15.27	16.92
8H	4H	9.10	9.44	10.28	10.61	12.25	13.13	13.47	14.31	14.63	16.28
	6H	9.56	9.83	10.76	11.05	12.69	13.62	13.90	14.82	15.11	16.75
	8H	9.75	9.99	10.96	11.18	12.84	13.80	14.04	15.01	15.23	16.89
	12H	9.89	10.10	11.10	11.29	12.98	13.91	14.12	15.12	15.31	17.00
12H	4H	9.10	9.41	10.30	10.59	12.24	13.07	13.38	14.27	14.56	16.20
	6H	9.61	9.86	10.82	11.05	12.71	13.59	13.83	14.80	15.02	16.68
	8H	9.83	10.04	11.04	11.23	12.92	13.78	13.99	14.99	15.18	16.87